A Short Resume of Thesis
Entitled

"Standardisation of Norms for the Practical Tests Conducted for Boys and Girls in the Age Group of 14 to 19 in the State of Goa''

SUBMITTED TO

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

FOR THE REGISTRATION OF DEGREE

OF

DOCTOR OF PHILOSOPHY IN PHYSICAL EDUCATION (PH.D)

By

RESEARCH SCHOLAR

SAVIO EPIFANIO FERNANDES

UNDER THE SUPERVISION OF

Dr. Gopal L. Moghe (N.I.S., M.P.Ed., Ph.D.)

Director, Physical Education,

MAHARASHTRA MAHAVIDHYALAYA,

NILANGA, DIST. LATUR (M.H.)

INDEX

1.	**Introduction**	**Page No**
	1.1) Introduction	1
	1.2) Statement of the Problem	2
	1.3) Operational Definitions	2
	1.4) Need and Significance of the study	3
	1.5) Objectives	3
	1.6) Assumptions	3
	1.7) Hypothesis	3
	1.8) Methods	3
	1.9) Sampling	3
	1.10) Population	3
	1.11) Sample	3
	1.12) Data Collection Tool	4
	1.13) Data Analysis	4
	1.14) Scope of the study	4
	1.15) Limitations	4
	1.16) Delimitations	4
	1.17) Significance of the study	4
	1.18) Chapterization	5
	1.19) Time Management	5
2.	**Review of Related Literature**	6
3.	**Research Methodology**	
	3.1) Proposal	10
	3.2) Sample	10
	3.3) Data Collection Tool	10
	3.4) Procedure of the Study	10

4. Data Analysis and Interpretation

4.1) Introduction 11

4.2) Descriptive Analysis 11

4.3) Hypothesis testing 11

4.4) Discussion 11

5. Summary, Conclusions and Recommendations

5.1) Introduction 12

5.2) Summary 12

5.3) Major Findings 12

5.4) Conclusions 12

5.5) Recommendations 12

6. Time Management of Research 13

7. Chapters 14

8. Bibliography 15

INTRODUCTION

This Study is a normative survey which aims at developing a standard set of norms for practical Exam tests conducted by physical education teachers in schools for the assessment of students between the ages 14-19 years. Normative survey usually involves establishing norms for abilities, performances, beliefs, and attitudes. A cross-sectional approach is used: samples of people of different ages, sexes, and other classifications are selected and measured. The steps in the normative survey are generally the same as in the questionnaire, the difference being the manner in which the data is collected. Rather than asking questions, the researcher selects the most appropriate tests to measure the desired performance or abilities, such as components of physical fitness. (Jerry R. Thomas) 288-289

The following tests are conducted by the physical education teachers as practical exams for the assessment of students.

- 100M Run
- Standing Broad Jump
- Long Jump
- High Jump
- Shot put

Standardisation of Physical Fitness Norms:

Standardisation implies uniformity of procedures in administrating and scoring the test. If the scores obtained by different persons are to be comparable, testing condition must obviously be same for all.

The formulation of directions is a major part of a standardisation of a new test. Such standardisation extends to exact materials employed, time limits, oral instructions, preliminary demonstrations, way of handling queries from test takers and every other detail of the testing situation.

Another important step in the standardisation of a test is the establishment of norms. As its name implies, a norm is the normal or average performance. In the process of standardisation it is administered to a large representative sample of the type of persons for whom it is designed. This group known as the standardisation sample serves to establish the norms. Norm corresponds to the performance of typical or average persons.(https://funpsychology.wordpress.com/psychological-testing/standardisation-of-a-test/)

Norms:

A norm represents a typical level of performance for a particular group. Norms merely represent scores earned by individuals in clearing defined reference group. It presents information about "normal or typical performance of a measuring instrument.

Administrative constraints of tests:

Measurement programs are not easy to conduct. They require hard work and close attention in detail. A successful suggestion for inaugurating a measurement program when the physical education wishes to make a gradual beginning and do effective work is to limit the number of pupils tested at the start. (Clarke and Clarke, 1987)

The Standardisation of testing procedures is essential for establishing norms. But when a normative survey involves many testers from different part of the country, problems with standardisation become a potential source of measurement error.(R Thomas)

2) **Statement of the Problem:**

Since the P. E teachers in Goa evaluate the school children with the above mentioned practical tests, there is a need to have standard norms for all the students of the age group 14-19 so that the grading done by teachers is correct.

Hence this research "**Standardisation of Norms for the Practical Tests conducted for Boys and Girls in the age group 14-19 in the State of Goa"** has to be undertaken.

3) Operational Definitions:

100 Meters Test: A 100 meters test is a sprint race in track and field competition where the participant has to cover the distance of 100 meters in the least possible time.

200 Meters test: A 200 meters test is a sprint race in track and field competition where the participant has to cover the distance of 200 meters in the least possible time.

Standing Broad Jump: The Standing Long Jump, also called the Broad Jump, is a common and easy to administer test of leg power.

Shuttle Run Test: The test requires the person to run back and forth between two parallel lines as fast as possible.

Long Jump: an athletic event in which competitors jump as far as possible along the ground in one leap.

High Jump: an athletic event in which the competitors jump high over the bar which is raised until only one competitor can jump it without dislodging it.

Shot put: an athletic contest in which a very heavy round ball is thrown as far as possible.

4**) Need & importance of the Study:**

Since this study will lead to creation of norms for the state of Goa, the PE Teachers will be able to grade the students in a right manner and give fair marks for their performance.
Also the available norms in which the students are graded are created in the year 1993 which is 23 years back, hence might not be very valid for the current generation and a comparison of the past and recent norms can be made.

5) Objectives:

- To explain the PE Teachers how to administer the test.
- To collect the data from the PE Teachers.
- To prepare group norms for the age group 14-19
- To standardise the norms.
- To compare the norms with the available set of norms.

6) Assumptions:

It is assumed that the students will actively participate during the conduct of the tests.

It is assumed that the physical education teachers conduct the test and record the data correctly.

It is assumed that the rest provided between the various tests is sufficient.

7) Hypothesis:

H_1 : There will be significant difference between the norms prepared by the researcher and the already existing norms for the physical fitness test.

8) Method:

Standardisation of norms. Normative study.

9) Sampling:

A Purposive Sampling Technique will be used by the researcher to select the students from the respective Taluka from which the date will be conducted. In Purposive sampling the researcher selects the sample based on convenience.

10) Population:
The Researcher has selected the students between the ages 14-19 years from the state of Goa for the current study.

11) Sample:
The State of Goa is divided into 11 talukas from which 200 students will be selected from each Taluka (100 boys and 100 girls). Researcher will collect the data by conducting the fitness test.

12) Data Collection Tool:

- Score sheet of Practical Tests of students.

13) Data Analysis Tool:

- The norms will be calculated with the data collected and it will be compared with the existing norms with the help of one sample T-Test.

14) Scope of Research:

The purpose of the study was creating and standardise norms for physical test conducted for students by physical education teachers between the ages 14 to 19. A short summary will be presented here. The study will help to understand the fitness standard of children in that age group. It will also help in helping students maintain a healthy lifestyle.

15**) Limitations:**

The researcher has no control over the current fitness level of the subjects

The researcher has no control over the daily routine of the subjects.

The researcher has no knowledge and control about the psychological make-up of the students.

The researcher cannot control the daily diet of the subjects.

The researcher has no control over the measurement of the tests taken by the teacher

16) Delimitations:

The study is delimited to students within Goa State only.

The study is delimited to the students studying in schools only.

The study is delimited to the age 14-19 only.

17) Significance:

The study will help the students, parents and teachers to have a better insight into the fitness of the students.

It will help to improve the fitness of the students.

18) Chapterization

1: Introduction

2: Review of Related Literature

3: Research Methodology

4: Data Analysis and Interpretation of Results

5: Summary, Conclusion and Recommendations of the Study

19) Time Management of Research:

a) Research Planning/ Synopsis- May 2016

b) Study of Reference/ Data Material-

c) Selection of Sampling-

d) Collection of Data-

e) Testing of Hypothesis-

f) Initial Test & Post analytical Test-

g) Preparation of Thesis-

h) Necessary Correction of Thesis-

i) Report/Thesis submitted to the University-

CHAPTER II

Review of Related Literature

Research scholar has made sincere efforts to gather the ideas related to the present study. The investigator has tried his level best to collect and quote the findings on the relative studies and have classified the reviews under four headings.

1) **Reviews for construction of norms for physical fitness tests.**

The American Alliance for Health, Physical Education, Recreation and Dance (AAPHERD) has sponsored several normative surveys. Probably the most notable was the Youth Fitness Test (see AAPHER, 1958), conducted in response to the furor caused by the results of the Kraus-Weber test (Kraus & Hirschland, 1954), which had revealed that American children were inferior to European children in minimum muscular fitness. The Youth Fitness Test was originally given to 8500 boys and girls in a nationwide sample. Follow up testing was done on 1965 and 1975

In the 1985 normative AAPHER normative survey, a committee determined a seven item motor fitness test battery. The University of Michigan Survey Research Center selected an representative National sample of boys and girls in Grade 5 through 12 and then requested the cooperation of each school. They prepared the directions of giving the test items and selected and trained physical education teachers in various parts of the country to administer and supervise the testing.

In addition, AAPHERD conducted a sports skills testing project, which established norms for boys and girls of different ages in skills in a number of sports. The National Children and Youth Fitness Study (1985,1987) was a normative survey that established norms for health related physical fitness test.

Bos[2] prepared percentile norms tables for selected measures of strength, power, agility, flexibility, body composition and muscular endurance from data collected from five schools of the unity of Christian school system at Hudsonile.

Zuti and Corlin[3] conducted a research on physical fitness norms for college freshmen. They took 3000 freshmen at Kansas State University ranging age from 17.5 to 19.5 years. Tests were conducted for strength, flexibility and cardiovascular fitness. The results appeared to indicate that the college freshmen at Kansas State University were above average and the standards were appropriate for the use of American College- age population.

Resmussen[4] conducted a study in South Dakota High School Activities Association. For this study, one school was selected to represent each region or section, the number selected from each school was in proportion to the school enrollment. AAPHER

Youth Fitness Test was administered on 1000 South Dakota boys in grade 7 through. Norms were established by computing every fifth percentile. The scores of the South Dakota boys were compared with those of national boys using the age only. He found that medium scores of South Dakota boys at all ages were higher than those for national boys on all items except the pull-ups, the shuttle-run and the 50 yard dash.

2) Reviews for use of various practical tests for the assessment of subjects

Colgan[5] conducted a study to compare the AAPHER Youth fitness test and the proposed fitness test to determine the test that compared the same fitness components. Boys and girls, 326 in number from St. John's English School in Waterloo, Belgium (grade 5-12) were evaluated in both the tests.
The fitness components were used were six components of AAPHER Youth Fitness test and 3 items recommended by the ARAPCS committee. Both the test batteries when satisfactorily treated revealed that the AAPHER Youth Fitness Test and the proposed test where measuring different components of fitness.
It was concluded that the AAPHER Youth Fitness Test Battery measures "Motor Performance" while the proposed fitness test measures Fitness and Endurance. AAPHER Youth Fitness Test measures the same components for males and females, but age interacts with performance to a greater extent in females.

Klesius[6] conducted a study to consider the effect of correlating various combination of measures collected in measuring the administration of AAPHER Youth Fitness Test Battery in context of a test-retest reliability to determine the reliability of selected items and relative efficiency of the performance measures.
The test items were administered on 150th tenth grade male students at Peom Senior High School, Florida. The tests were administered in the following order: Standing broad jump and 50 yards dash – 3 trials each, shuttle run and soft ball throw, - three trials each, pull-ups, sit-ups and 600 yard run/walk – one trial each.
Through the statistical analysis it was found that with the exception of sit-ups, all the items were reliable. In case of sit-ups and shuttle run, the first run itself, gave satisfactory indices of performance.

Stein[7] conducted a study to ascertain the reliability of individual test items of the youth fitness test. Tenth and eleventh grade students of Wake Field High School were selected as subjects. The AAPHER Youth Fitness Test was administered and the reliability co-efficient for all the items was determined. He found that five of the seven test items (pull-ups, broad jumps, sit-ups, 50 yard dash and soft ball throw) have shown reliability coefficient ranging between 0.90 and 0.98. the other two items (shuttle run and 600 yard run/walk) showed average to high relationship ranging between 0.74 and 0.83. All the reliability coefficients were significant beyond 0.01 level.

Ikeda[8] compared physical fitness of children in Iowa and Tokyo. The IOWA test of Motor Fitness was given to 395 Tokyo children and 355 Iowa children, 9 to 12 years of age. The Test battery included sit-ups, standing broad jump, shuttle run, pull-ups for boys, bent arm hang for girls and 50 yard dash. Anthropometric measurements in height, weight and leg length were taken.

The results indicated that Iowa children were heavier, taller and had longer legs than Tokyo children but Tokyo children scored better in all motor performance test except sit-ups.

3) Reviews for norms construction for fitness test for the age group 13-16

The physical fitness norms for Nigerian boys and girls of 11 to 18 years of age were computed by **Anyanwn**[9]. The included test items were: Shuttle run, push-ups for boys, chair push-ups for girls, flexed knee sit-ups, 45 meter dash, standing long jump, pull-ups for boys, flexed arm hang for girls, nine minute run/walk for students of 11-12 years and 12 minute run/walk for subjects of 13-18 years. A comparison of the mean score of the United States and the Nigerian Youth showed that at the upper age levels, the United States youth had better fitness than their Nigerian counterparts, whereas at the lower age level, there was no much difference.

Robbins[10] conducted a normative survey for Alabama students of 1 to 9 classes. About 2545 boys and girls, aged 6-14 years were given AAPHER Youth Fitness Test and AAHPERD Health Related Fitness Test. The percentile tables were constructed for each item and, based on age and sex, Alabama and national means were compared. Alabama and national means were compared. Alabama students scored better on events measuring agility, speed, and cardiovascular endurance but the national scores in abdominal, muscular endurance and flexibility were better.

Falck[11] prepared the percentile norms for girls of age 12, 13, and 15 on the North Caroline AAPHER Test. The norms were prepared for each of the following test items: Sit-ups, side stepping, standing broad jump, modified pull-ups and squat thrusts. The sit-up item provided effective differentiation on the percentile scale for each age group. The concentration of scores in the middle of the distribution for the side stepping test on the squat thrust test resulted in effective discrimination in the center of the ranges for all age groups. The Standing Broad jump test provided the greatest ranges and the best differentiation of scores on the percentile scale for the age groups. The modified pull-up test failed to differentiate the lower and of the distribution for all age groups but did discriminate above the 20^{th} percentile.

4) Reviews related to comparison of Fitness Norms

Knuttgen[12] conducted the study of comparison of fitness of Danish School children with American School children, AAHPER Youth Fitness Test was administered on 319 male and 134 female Danish School children. The Results of the testing were compared to the American standards, which were compiled in terms of age and the Nelson- Cozens

Classification Index. It was found that approximately 70% of the boys scores and 86% of the girl's scores exceeded the American mean scores.

Backford[13] conducted this study to evaluate the physical fitness level of Navajo 14-16 years old. AAPHER Youth Fitness Test was administered on the subjects selected from seven schools of the region to measure the physical fitness level. Also, norms were established of the scores obtained from test results from this school. These norms were compared to National norms found in the manual accompanying the AAHPER Youth Fitness Test; The results of the study gave an indication of the overall fitness level of 15-16 years old Navajo girls. Of the seven test items and it was observed that the Navajo norms were below the national norms on five items and above on the softball throw and 600 yards run/walk.

Carl[14] compared the norms of boys and girls of Delaware with the national norms. The Delaware norms were equal to or higher than national norms between the 25^{th} and 85^{th} percentiles except for shuttle run. The Delaware norms also tended to be higher at the 50^{th} and 100^{th} percentile.

Alston[15] made a comparison between the performance of girls on the Virginia Physical Fitness Test, AAPHER Youth Physical Fitness Test and North Carolina Physical Fitness Test. She found the correlation between the Virginia and the AAPHER test to be 0.89 between the AAPHER test and the North Carolina test 0.80. The mean differences gave essentially equivalent results for assessing physical fitness of high school children.

CHAPTER III

Research Methodology

3.1 Procedure of the Study:

The detailed procedure of the study has been explicitly presented as follows:

- The researcher will explain to the physical education teachers the scientific way to administer the test.
- The researcher will select the different schools from which the data will be collected
- The researcher will also assist the physical education directors in administering the test.
- Data will be collected with the help of score sheets.
- Score sheets of all the talukas will be collected and compiled.
- Descriptive analysis of the data will be computed
- The norms will be calculated with the data collected and it will be compared with the existing norms with the help of one sample T-Test.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction:

The current chapter analyses the data and gives the result of the study. The details of the statistical tool and the interpretation of the data are explained in detail in this chapter. Testing of hypothesis stated in chapter 1 is also done. Further the result was discussed and justified with sound reasoning. Analysis is made with the help of SPSS

4.2 Descriptive Analysis:

Descriptive Analysis of the Data collected will be done with the help of SPSS. Percentile norms will be calculated with the help of the data collected. Comparison of the norms with the existing norms will be done with the help of One Sample T-Test.

4.3 Hypothesis Testing:

The researcher stated that hypothesis is needed for statistical reasons. The testing of it will be done.

4.3 Discussion:

After the comparison of the data is done, the result will be discussed in detail.

CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction:

The chapter will summarizes in short the entire research work done for the current topic. Along with its presents the major findings of the study and the conclusions are drawn based on the interpretation and findings. Further it puts forth the recommendations for further research work which can be carried out.

5.2 Summary:

The purpose of the study was creating and standardise norms for physical test conducted for students by physical education teachers between the ages 14 to 19. A short summary will be presented here. The study will help to understand the fitness standard of children in that age group. It will also help in helping students maintain a healthy lifestyle.

5.3 Major Findings:

After analysis of the data collected its major findings will be presented in this sub-topic

5.4 Conclusion:

- Conclusions of the Research topic will be discussed here.

5.5 Recommendations:

Recommendations for future research will me mentioned here.

6. Time Management of Research:

a) Research Planning/ Synopsis- May 2016

b) Study of Reference/ Data Material-

c) Selection of Sampling-

d) Collection of Data-

e) Testing of Hypothesis-

f) Initial Test & Post analytical Test-

g) Preparation of Thesis-

h) Necessary Correction of Thesis-

i) Report/Thesis submitted to the University-

Chapterization

1: Introduction

2: Review of Related Literature

3: Research Methodology

4: Data Analysis and Interpretation of Results

5: Summary, Conclusion and Recommendations of the Study

Appendix

Bibliography

Research Guide

Dr. Gopal L. Moghe

Director, Physical Education

Maharashtra Mahavidyalaya

Nilanga, Dist. Latur. (M.H.)

Research Scholar

Mr. Savio E. Fernandes

Research Scholar, SRTMU- Nanded.

Bibliography (References)

[1]Jerry R. Thomas, Jack K. Nelson, Steven J. Silvermen, "**Research Methods in Physical Activity**": Sixth Edition, 289

[2]David L. Bos, "Physical Ability Testing of Male Students in Grades Four to Twelve, " **Completed Research in Health, Physical Education and Recreation** 9 (1967): 77.

[3]William B. Zuti and Charlem B. Corlin, "Physical Fitness Norms for College Freshmen," **Research Quarterly** 48 (May 1977): 503

[4]Glen M. Resmussen, " A Normative Study of the AAHPER Youth Fitness Test for Boys in Grades Seven Through Ten in the State of South Dakota, "**Completed Research in Health, Physical Education and Recreation** 9 (1970): 207

[5]Sharon M. Colgan, " A Comparative Study of the AAPHER Youth Fitness Test and a Proposed Fitness Test, " **Completed Research in Health, Physical Education and Recreation** 21 (1978): 144

[6]Stephen E Klesius, "Reliability of AAPHER Youth Fitness Test Items and Relative Efficiency of Performance Measures, '' **Research Quarterly** 39:3 (October 1968): 809-811

[7]Julian U Stein, "The Reliability of Youth Fitness Test Items,'' **Research Quarterly** 35:3 (October 1964): 328-329

[8]Namika Ikeda, "A Comparison of Physical Fitness of Children in Iowa, USA, and Tokyo, Japan," **Research Quarterly** 34:4 (December 1962): 541

[9]Anyanwn, "Physical Fitness of Nigerian Youth", **Dissertation Abstracts International** 38 (November 1977): 2642

[10]William Callaway Robbins, "Alabama Motor Fitness and Health Related Fitness Norms, Ages 6-14,"**Dissertation Abstracts International** 46:1 (July 1985): 101

[11]Francis Elizabeth Falck, "North Carolina Association for Health, Physical Education and Recreation- Physical Fitness Percentile Norms for Girls Aged 12, 13, 14 and 15." **Research Quarterly** 31 (1960):85

[12]Horward G. Knuttgen, "Comparison of Fitness of Danish and American School Children," **Research Quarterly** 32:3 (May 1961): 159

[13]Patricia A. Backford, "A normative Study of the Physical Fitness of 15 and 16 Years Old Navajo Girls Using AAPHER Youth Fitness Test," **Completed Research in Health, Physical Education and Recreation** 14 (1976):159

[14]Babcock F. Carl, "Physical Fitness of Delaware Boys and Girls in Grades Five through Twelve," **Completed Research in Health, Physical Education and Recreation** 6 (1964): 60

[15]Dorothy J. Alston, "The Physical Performance of High School Girls on Three Physical Fitness Tests," **Completed Research in Health, Physical Education and Recreation** 7 (1965):74